UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/429,339	10/28/1999	ALAN L. DAVIS	TI-28475	5805

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TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER
KENDALL, CHUCK O

ART UNIT	PAPER NUMBER
2122	

DATE MAILED: 07/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.	Applicant(s)
Office Action Summary	09/429,339	ALLAN L.DAVIS
	Examiner	Art Unit
	Chuck O Kendall	2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>25 April 2002</u> .

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☐ Claim(s) _____ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-3,6-16,19-27* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)   4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .   6) ☐ Other: .

DETAILED ACTION

Examiners Response

This Office Action is the response to the communication received on 4/25/02
Amendment under 37 CFR § 1.111. Reconsideration of the instant application is requested by
Applicant. All such supporting documentation has been placed of record in the file.
Claims 1-3,6-16,19-27 are pending in this application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3,6-16, &19-27are rejected under 35 U.S.C. 103(a) as being unpatentable over

Benson USPN 5,598,560 in view of Ma USPN 5,933,641.

Regarding claim1 Benson discloses a translation system, for translating a source

assembly language program for a source deice into for a target device, [3:60-4:10] the system

comprising:

    a front end for identifying source elements in the source program [fig 1,20];

    a back end for generating a translation file having translation elements corresponding to

translation of the identified source elements, the backend including interface for comparing the

identified source elements with the corresponding translation elements, the interface receiving

inputs for modifying the translation elements [8:52-6]. Robinson doesn't explicitly teach target system code being assembler code. However, Ma does disclose this in a similar configuration,[fig 2,10,12,21]. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Benson with Ma to implement the instant claimed invention because, maintaining consistent formats during translation allows code to be ported to different architectures.

Regarding claim 2 the system of Claim 1, wherein the source file is for a source device and the translation file is for a disparate target device [Benson,fig 1, 21,13, 25].

Regards, to claim 3 the system of Claim 1, wherein the source file is a linear assembly file for a target device and the translation file is a scheduled assembly file for that device [Ma, Fig 2,21].

Regards, to claim 6 the system of Claim 1, wherein said translation is a context-dependent translation based on static analysis of the source file,[3:60-65, see parsing]

Claim 7.
        The system of Claim 1, wherein the back end further comprises:
        a translator for performing a context-dependent translation, the translator comprising:
        a translation machine description for mapping source opcodes to target opcodes;[Ma, fig.2].
        a source machine description containing a description of source opcodes and source operands in a generic representation [Benson, 3:60-67]
        a target machine description containing a description of target opcodes and target operands in a generic representation[Benson,8:53-60];
        wherein the translator receives a source instruction from said front end, utilizes the translation machine description and source machine description and target machine description to translate source elements into target elements [benson,8:13-32].
        Regarding claim 8.

The system of Claim 7, wherein the proper target opcode is chosen from a group of potential target opcodes by comparing the target opcode and target operand with the source opcode and source operand [4:30-36, see viewing, 5:40-51 see visual display, for comparing see determining].

Regarding claim 9 the system of Claim 7, wherein two or more source opcodes can be combined to a single target opcode when there is a target opcode that represents the two or more source code opcodes.[see table for {and opcode} as interpreted].

Regarding claim 10 the system of Claim 1, wherein the user interface is a graphical user interface. [Ma, fig2, 20].

Regarding claim 11 the system of Claim 10, wherein the graphical user interface displays at least a portion of the source elements in a source window, at least a portion of the translation elements in a translation window, and the source and translation windows are displayed side-by-side [Ma, 5:40-50].

Regarding claim 12 the system of Claim 11, wherein corresponding groups of elements of the source and translation files are aligned in the source and translation windows [Ma, 5:40-50].

Regarding claim 13 the system of Claim 11, wherein at least one of the source and translation windows is operable to display a status icon for an element in the window [Ma, 5:41-42].

Regarding claim 14 see reasoning in claim 1, regarding displaying the translation of elements in an interface for receiving user inputs [Ma, 5:40-50].

Regarding claim 15 the method of Claim 14, wherein the source file is for a source device and the translation file is for a disparate target device [Benson, fig 1].

Regarding claim 16 see claim 3 for reasoning.

Regarding claim 19 see claim 6 for reasoning.

Regarding claim 20 the method of Claim 14, wherein the step of generating a translation file further comprises:

converting an opcode of a source machine to an opcode of a translation machine file by comparing the source opcode to possible translation opcodes [Ma, 5:40-50].

converting the operand of the source opcode by comparing an operand of the source opcode in a generic expression with generic expression for a translation operand [Ma, 5:40-50].

combining the translation opcode and the translation operand to form a translation. [Benson fig.1, item# 23, object modules are linked into one image file on the target system].

Regarding claim 21 the method of Claim 20, wherein the step of converting an opcode of the source file further comprises choosing a translation opcode from a group of potential translation opcodes by comparing the translation opcode and translation operand with the source opcode and source operand [Ma, 5:40-50, see viewing and determining from different numeric formats].

Regarding claim 22 the method of Claim 20, wherein the step of converting the source opcode further comprises the step of combining two or more source opcodes into a single translation opcode when there is a translation opcode that represents the two or more source opcodes [Benson fig.1, item# 23, object modules are linked into one image file on the target system].

Regarding claim 23 see claim 10 for reasoning.
Regarding claim 24 see claim 11 for reasoning.
Regarding claim 25 see claim12 for reasoning.
Regarding claim 26 see claim 13 for reasoning.

Regarding claim 27 see claim 1 for reasoning.

Response to Arguments

Examiner has evaluated applicant's arguments of 4/25/02 correspondence, which has been fully considered Applicant's arguments with respect to claims1-3,6-16,19-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Rejection has been necessitated by amendment. This action is made Final Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

1.136(a) will be calculated from the mailing date of the advisory action. In no event, however,

will the statutory period for reply expire later than SIX MONTHS from the mailing date of this

final action. see MPEP § 706.07 (a).

Correspondence Information

Any inquires concerning this communication or earlier communications

from the examiner should be directed to Chuck O. Kendall who may be reached

via telephone at (703) 308-6608. The examiner can normally be reached

Monday through Friday between 8:00 A.M. and 5:00 P.M. est.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Greg Morse can be reached at (703) 308-4789.

Any inquiry of a general nature or relating to the status of this application

or proceeding should be directed to the Group receptionist whose telephone

number is (703) 305-3900.

For facsimile (fax) send to 703-7467239 official and 703-7467240 draft

Chuck O. Kendall

Software Engineer Patent Examiner
United States Department of Commerce